

Human vs Non Human Bacteria

EPA Rationale for Proposed Changes to the 1994 Water Quality Standards Handbook

The original policy, as stated in the 1994 Water Quality Standards Handbook, allows states to apply bacteriological criteria sufficient to support primary contact recreation with a rebuttable presumption that the indicators show the presence of human fecal pollution. Rebuttal of this presumption must be based on a sanitary survey that demonstrates a lack of contamination from human sources. The basis for this option is the absence of data demonstrating a relationship between high densities of bacteriological water quality indicators and increased risk of swimming-associated illness in animal-contaminated waters.

The proposed change in the policy is because recent evidence indicates that warm-blooded animals may be responsible for transmitting pathogens capable of causing illness in humans (several cases are cited in guidance). As a result, states and tribes may no longer use broad exemptions from the bacteriological criteria for waters designated for primary contact recreation based on the presumption that high levels of bacteria resulting from non-human fecal contamination present no risk to human health. While EPA believes that non-human sources are capable of transmitting pathogens that can cause gastrointestinal illness, the specific risk from these sources has not been fully determined. The guidance states that, “Unless and until the time that the absence of a relationship between non-human sources of fecal contamination and human illness rates is established, EPA recommends that states and tribes apply their WQ criteria for bacteria to all waterbodies designated with primary contact in order to ensure protection of human health from gastrointestinal illness, and thus is changing its policy regarding non-human sources of fecal contamination... While EPA believes a change in this policy is necessary to ensure protection of human health, EPA acknowledges such a change may present states and tribes with difficulties, such as the routine exceedance of the ambient water quality criterion due to natural sources of pollution. Changes to the designated use may be the most appropriate way to address these situations...”

Attached (FYI) is a more detailed description of the proposed policy change along with comments that have been made about the revised guidance language.

(See attached file: bactnonhumansourceproppolicychg.wpd)

Following is Region 5’s draft message to HQ outlining our position on the non-human source policy:

“Region 5 supports a modification of the original nonhuman source policy until further epidemiological studies allow EPA to quantify the risk to human health for individuals exposed to microorganisms resulting from non-human fecal contamination; and until EPA can develop an applicable numeric non-human source criterion which is necessary for assessing attainment of the standard and requiring TMDLs. In the interim, we recommend that public health be protected by issuing swimming advisories or posting

signs at areas potentially contaminated by non-human sources so that the public is advised of the potential risks associated with swimming in water that may be contaminated by animal waste. Please see our attached position rationale.

“We believe that it is premature to take such a major action as removing a recreational use without having some way of quantifying the risk. We cannot rely on the fact that non-human sources result in exceedances of indicator microbe criteria if we haven’t established a relationship between exposure and health effects in humans. If we are concerned enough about the health effects, we ought to make conducting the epidemiologic studies necessary to quantify the relationship a priority. If it is subsequently shown that pathogens from non-human sources are present in these waters at levels that present an unacceptable health risk, removing the primary contact recreation use should be one part of an overall strategy to prevent human exposure.”

Our position rationale:

(See attached file: bactr5nonhumansourcerationale.wpd)